

## **Version 2 to Version 3 Differences**

### **Semi-arid Southwest Precipitation Frequency Project**

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#### **Introduction**

On January 7, 2004, the Semi-arid Southwest precipitation frequency (PF) estimates, known as NOAA Atlas 14 Volume 1, were updated. The previous version, version 2, has been superseded by version 3. Version 3 is now available via the Precipitation Frequency Data Server (PFDS) at <http://hdsc.nws.noaa.gov/hdsc/pfds/>.

#### **Precipitation Frequency Estimate Changes**

Although version3 and version2 are essentially equal across most of the domain, the 48-hour and 4-day durations increased across the entire study area as a result of the application of an annual maxima consistency check. This check adjusted for cases where a shorter duration had a higher maximum than a longer duration to insure consistency. See the 27<sup>th</sup> Semi-arid Progress Report for more details. This occurred most often at the 48-hour and 4-day durations. Other large areas with a more than 2% change include:

1. The 5-minute through 60-day PF estimates in the Moab, Utah vicinity decreased.
2. The 5-minute through 12-hour PF estimates in the immediate Phoenix, Arizona vicinity increased.
3. The 5-minute through 60-day PF estimates in the mountains of Socorro County New Mexico increased.
4. The 24-hour through 60-day PF estimates in southeastern Graham County and northeastern Cochise County Arizona decreased.
5. The 48-hour PF estimates in the Plymouth, Utah vicinity have increased.
6. The 5-minute through 12-hour PF estimates in southwestern Inyo County California decreased substantially.
7. The 5-minute through 12-hour PF estimates in northeastern Los Angeles County and eastern San Bernardino County California decreased.
8. The 5-minute through 12-hour PF estimates in other isolated areas, particularly at higher elevations of Nevada and Utah, decreased slightly.

These differences can be evaluated spatially at the following links which show difference [(ver3 minus ver2) divided by ver2] maps. The red/orange coloring indicates areas where the estimates have decreased and the blues/greens where the estimates have increased.

- 60-minute ([ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa\\_v2\\_vs\\_v3\\_60m.pdf](ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa_v2_vs_v3_60m.pdf))

- 24-hour ([ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa\\_v2\\_vs\\_v3\\_24h.pdf](ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa_v2_vs_v3_24h.pdf))

- 48-hour ([ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa\\_v2\\_vs\\_v3\\_48h.pdf](ftp://hdsc.nws.noaa.gov/pub/hdsc/data/sa/sa_v2_vs_v3_48h.pdf))

#### **Annual Maxima vs. Partial Duration Series Results**

Also, please note that version 3 results are now provided as partial duration series (PDS) results. Version 2 was previously displayed as annual maximum series (AMS) results. Just as in NOAA Atlas 2, the NOAA

Atlas 14 grids and maps were converted from an AMS-based estimate to a PDS-based estimate using a domain wide conversion factor. Conversion factors will be published with the final documentation. Although the new downloadable grids and upcoming PDF maps reflect PDS-based PF estimates, users can extract point PF estimates for either type of series on the PFDS.

### **Domain**

Unlike version 2, which provided results across state boundaries in an analytical border area, version 3 is clipped to the state boundaries that are the core area for this project. Therefore, version 3 covers a slightly smaller domain.

### **Datum**

The datum for the grids has changed from Clarke 1866 (version 2) to WGS 1972. See metadata for more details.

We believe version 3 is more accurate than version 2 and will no longer provide version 2 products. We recognize the possible inconvenience this may cause you, but it is our goal to provide the very best PF estimates. If you have specific questions about any the changes or version 3, please feel free to contact us at [HDSC.Questions@noaa.gov](mailto:HDSC.Questions@noaa.gov). At this time, we do not anticipate updating the Semiarid Southwest again.